Joint Power Projection From the Sea Base

Enabling Technologies Summary

The Defense Science Board Dirty Dozen
Twelve Issues DOD Must Address

- Management
  1. A Joint Sea Base Program Office With Meaningful Army and Air Force Participation
- Planning
  2. Sustaining Troops Ashore
  3. Protecting the Force Ashore
  4. Counter Threats in Littorals
  5. Concept of Operations at Sea

The Dirty Dozen (Cont.)

- New Capabilities
  6. Cargo Transfer at Sea
  7. Long-range Heavy Lift Aircraft
  8. Ships
  9. Communication Architecture
  10. Logistic Support
  11. Inter-theater Lift
- Resources
  12. Development speed and funding

Critical Obstacles

- Air connectors
  - *Operational Range*
  - *Heavy Lift to/from Sea Base*
- Surface connectors
  - *Sea State 4 transfers*
  - *LCAC fuel consumption*
  - *Unimproved Shore*
- MPF(F) functions
  - *Fast load/unload*
  - *Material breakout*
  - *Automated warehousing*

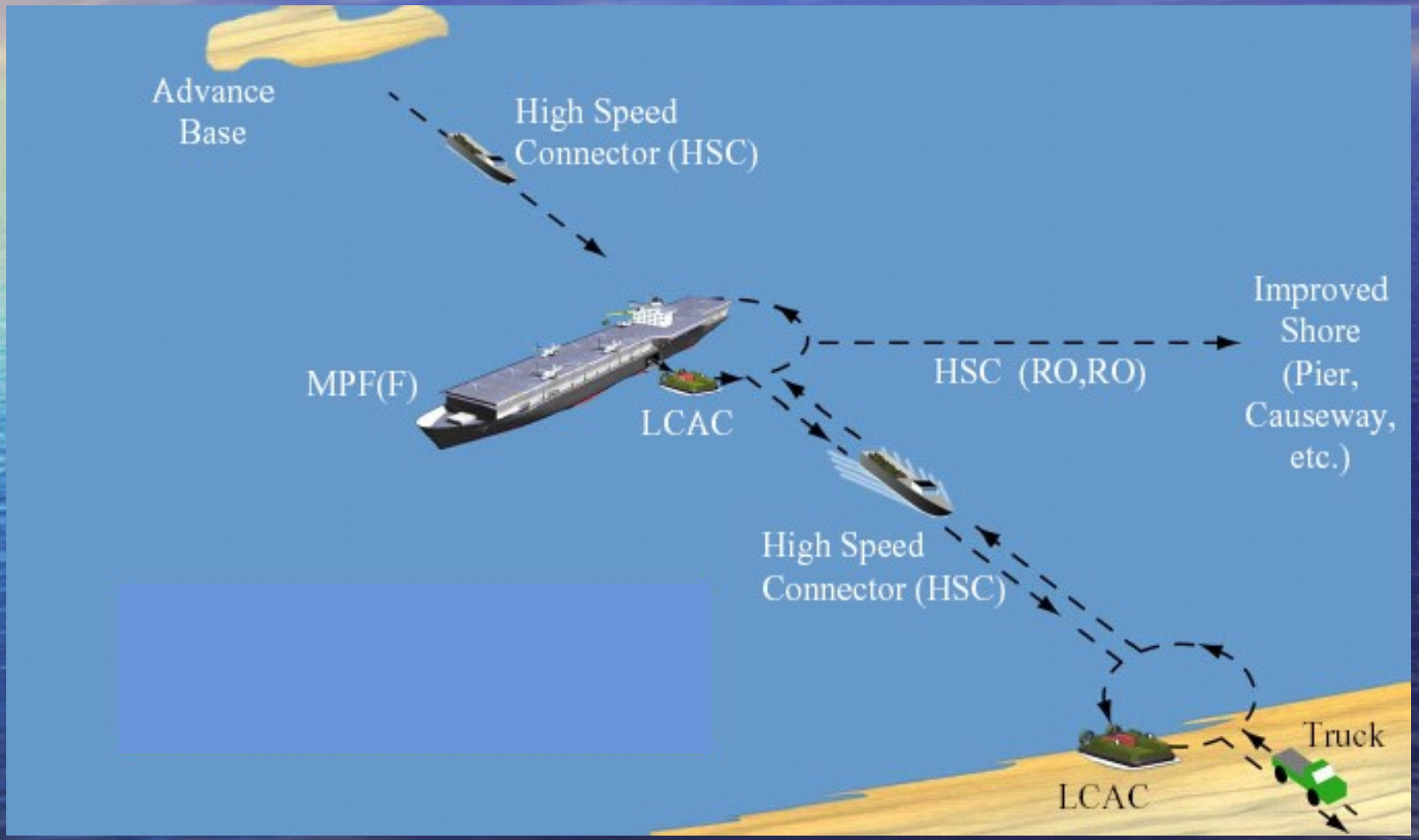
Overcoming Air Connector Obstacles

- Long-range heavy lift to/from Sea Base unavail
  - *CH-53X will help – deployment a problem*
  - *Range/Speed enhancements are most importa*
  - *Other options are long-term – i.e. Joint Heavy*

Overcoming Surface Connector Obstacles

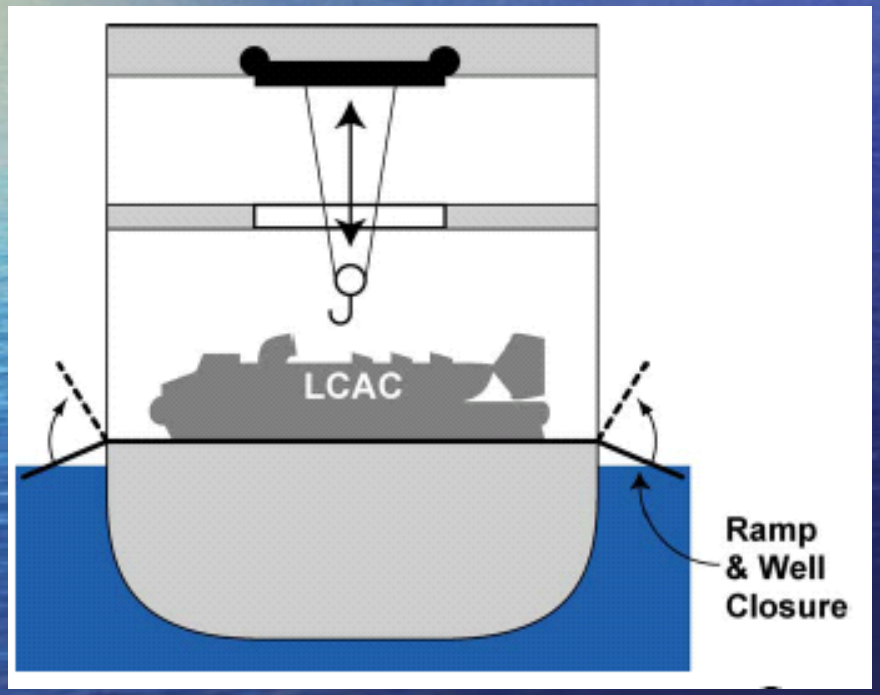
- Transfer rate in Sea State 4
  - *Eliminate relative motion*
  - *Load big – unload small*
  - *LCAC shuttle from MPF(F) to HSC*
- *LCAC fuel consumption*
  - *Use HSC as LCAC truck*
- Unimproved shore
  - *Deliver material over-the-beach*
  - *Use LCAC as pallet truck*

Operational Concept

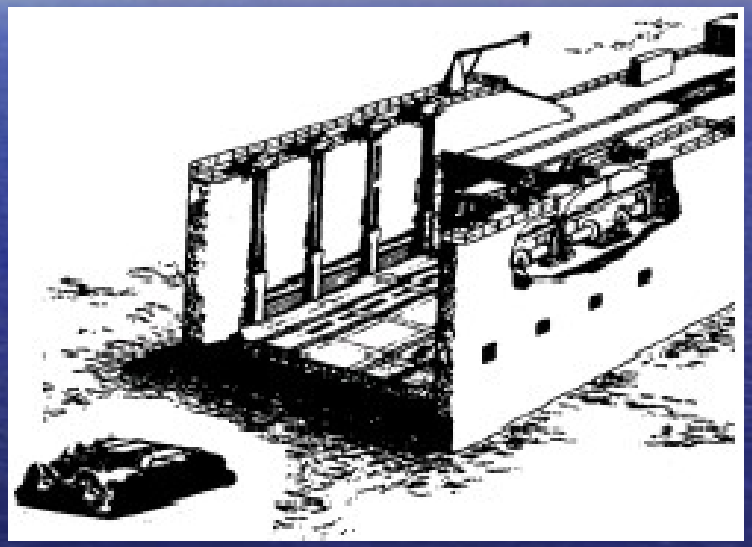


High-rate LCAC Loading Enabler #1

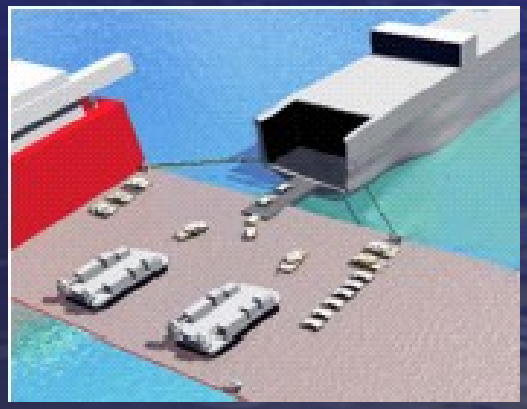
Transverse Tunnel (Drywell)



Stern Elevator



Intermediate
Transfer Platform



High Speed Connector Enabler #2

Threshold capabilities:

- *>32 kts, 2000 nm loaded*
- *3 loaded LCACs + additional cargo/troops*
- *Rapid LCAC launch and recovery*
- *Three loading modes*
  - *LCAC*
  - *Vertical*
  - *RO/RO*

Shipboard Automated Warehouse Enabler #3

Benefits of Candidate Solution

- Standoff range increased
- LCAC advantages retained
- HSC serves multiple purposes
- Rapid loading
  - *LCAC on MPF(F)*
  - *HSC via LCACs*
- Modular container breakout
  - *Large for loading efficiency*
  - *Small for beach movement*
  - *No TEUs on shore*

LCAC offers over-the-Beach capability

16 JMIC containers
Equal 1 TEU

Overcoming MPF(F) Platform Obstacles

- Spiral 0 system integration and sea-trial prog
  - Commercial platform
  - *Joint with JFCOM and TRANSCOM*
- *High Rate LCAC loading in Sea State 4*
  - *Demonstrate promising designs*
- Automated warehousing
  - *Demonstrate JMIC capability*
  - *Apply best commercial practices*
  - *Develop and test shipboard handling systen*